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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 12

Complete if Known

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	08/751,189	11-15-98	Harrington, et al.	
	AB	60/038,750	02-20-1997	Counter, et al.	
	AC	3,817,837	06-18-1974	Tanenholtz et al.	
	AD	3,850,752	11-26-1974	Schuurs et al.	
	AE	3,939,350	02-17-1076	Kronick et al.	
	AF	3,996,345	12-01-1976	Ullman et al.	
	AG	4,275,149	06-23-1081	Ullman et al.	
	AH	4,277,437	07-07-1981	Maggio	
	AI	4,366,241	12-28-1982	Tom et al.	
	AJ	4,683,195	07-28-1987	Mullis et al.	
	AK	4,683,202	07-28-1987	Mullis	
	AL	4,816,567	03-28-1989	Cabilly et al.	
	AM	4,965,188	10-23-1990	Mullis et al.	
	AN	5,489,508	02-06-1996	Weat et al.	
	AO	5,583,018	12-10-1996	Villeponteau et al.	
	AP	5,747,317	05-05-1998	Cao	
	AO	5,770,422	06-23-1998	Collins	
	AR	6,093,809	07-25-2000	Cech, et al.	
	AS	6,258,535 - B1	07-10-2001	Villeponteau et al.	
	AT	6,261,556 - B1	07-17-2001	Weinrich et al.	
	AU	6,261,838 - B1	07-17-2001	Cech et al.	
	AV	6,093,809	07-25-2000	Cech et al.	
	AW	6,166,178	12/28-2000	Cech et al.	
	AX	6,476,789 B1	11-05-2002	Cech et al.	

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		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	AY	JP	09154575-A			06-17-97		
	AZ	PCT	WO 84/03564			09-13-84		
	BA	PCT	WO 95/13382			05-18-95		
	BB	PCT	WO 96/01635			01-25-96		
	BC	PCT	WO 96/12811			05-02-96		
	BD	PCT	WO 96/19580			06-27-96		
	BE	PCT	WO 96/40868			12-19-96		
	BF	PCT	WO 98/01542			01-15-98		

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Sheet 2 of 12

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Application Number	09/432,503
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First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

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		Number	Kind Code ² (if known)				
	BG	PCT	WO 98/01543		01-15-98		
	BH	PCT	WO 98/07838		03-05-98		
	BI	PCT	WO 98/08938		02-26-98		
	BJ	PCT	WO 98/21343		05-22-98		
	BK	PCT	WO 98/37181		08-27-98		
	BL	PCT	WO 98/45450		10-15-98		
	BM	PCT	WO98/59040		12/30/98		
	BN	PCT	WO99/01560		01/14/99		

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**INFORMATION DISCLOSURE
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Sheet **3** of **12****Complete if Known**

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	BO	1994 Genome Issue of <i>Science</i> (265:1981f)	
	BP	Anderson and Young, "Quantitative Filter Hybridization" in <i>Nucleic Acid Hybridization</i> pp73-111 (1985)	
	BQ	Ausubel <i>et al.</i> ; (1989); Current Protocols in Molecular Biology, pp 5.1-5.11, 16.1-16.3 and 16.9-16.20; John Wiley & Sons, New York NY	
	BR	Autexler <i>et al.</i> , "Reconstitution of human telomerase activity and Identification of a minimal functional region of the human telomerase RNA," (1996) <i>EMBO J</i> , 15:5928	
	BS	Autexler and Greider, "Functional reconstitution of wild-type and mutant <i>Tetrahymena</i> telomerase," (1994) <i>Genes Develop.</i> , 8:563	
	BT	Berger and Kimmel, <i>Guide to Molecular Cloning Techniques</i> , (1987); Meth. Enzymol.; vol. 152; pp 305-389; Academic Press; San Diego CA	
	BU	Blessman <i>et al.</i> , "Addition of Telomere-Associated HeT DNA Sequences "Heals" Broken Chromosome Ends In <i>Drosophila</i> ," (1990) <i>Cell</i> , 61:663	
	BV	Bitter <i>et al.</i> , "Expression and secretion vectors for yeast," Meth Enzymol., (1987) 153:516	
	BW	Blackburn and Chiou, "Non-nucleosomal packaging of a tandemly repeated DNA sequence at termini of extrachromosomal DNA coding for rRNA in <i>Tetrahymena</i> ," (1981) <i>Proc. Natl. Acad. Sci.</i> , 78:2263	
	BX	Blackburn and Gall, "A tandemly repeated sequence at the termini of the extrachromosomal ribosomal RNA genes in <i>Tetrahymena</i> ," (1978) <i>J. Mol. Biol.</i> , 120:33	
	BY	Blackburn, "Telomerases," (1992) <i>Ann. Rev. Biochem.</i> , 61:113	
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		Bradford, "A Rapid and Sensitive method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," (1976) <i>Anal. Biochem.</i> , 72:248	
		Braunstein <i>et al.</i> , "Transcriptional silencing in yeast is associated with reduced nucleosome acetylation," (1993) <i>Genes Develop.</i> , 7:592	

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Application Number	09/432,503
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First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Calvio <i>et al.</i> , "Identification of hnRNP P2 as TLS/FUS using electrospray mass spectrometry," (1995) <i>RNA</i> , 1:724	
		Caruthers <i>et al.</i> , "New chemical methods for synthesizing polynucleotides," (1980) <i>Nucleic Acids Res. Symp. Ser.</i> , 215:223	
		Chan and Tye, "Organization of DNA sequences and replication origins at yeast telomeres," (1983) <i>Cell</i> , 33:583	
		Colbero-Garapin <i>et al.</i> , "A new dominant hybrid selective marker for higher eukaryotic cells," (1981) <i>J. Mol. Biol.</i> , 150:1	
		Cole <i>et al.</i> , "The EBV-hybridoma technique and its application to human lung cancer," <i>Monoclonal Antibodies and Cancer Therapy</i> , Alan R. Liss Inc., New York NY 77-96 (1985)	
		Collins <i>et al.</i> , "Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme," (1995) <i>Cell</i> , 81:677	
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		Coombs, <i>Dictionary of Biotechnology</i> , (1994): pp. 101-102, 283, 301 and 332; Stockton Press, New York NY	
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		Counter <i>et al.</i> , "The catalytic subunit of yeast telomerase," (1997) <i>Proc. Natl. Acad. Sci.</i> , 94:9202	
		Counter <i>et al.</i> , (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:2900	
		Creighton, <i>Proteins, Structures and Molecular Principles</i> , (1983): pp. 1-60; WH Freeman and Co; New York, NY	
		Dieffenbach and Dveksler, <i>PCR Primer, a Laboratory Manual</i> , (1995) pp. 131-136, 453-462 and 507-580; Cold Spring Harbor Press, Plainview NY	
		Duplax <i>et al.</i> , "Quantitative analysis of polymerase chain reaction products using biotinylated dUTP incorporation," (1993) <i>Anal. Biochem.</i> , 212:229	

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		First Named Inventor	Cech, Thomas R., et. al.
		Art Unit	1652
		Examiner Name	Peter P. Tung
		Attorney Docket Number	015389-002611US
Sheet	5	of	12

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
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		Fang <i>et al.</i> , "Oxytricha telomere-binding protein: separable DNA-binding and dimerization domains of the α -subunit," <i>Genes Develop.</i> 7:670 (1993) and Gray <i>et al.</i> , (1991) <i>Cell</i> 67:807	
		Feng <i>et al.</i> , "The RNA Component of Human Telomerase," (1995) <i>Science</i> , 269:1236	
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		Greider and Blackburn, "A telomeric sequence in the RNA of Tetrahymena telomerase required for telomere repeat synthesis," (1989) <i>Nature</i> , 337:331	
		Greider and Blackburn, "Identification of a specific telomere terminal transferase activity in Tetrahymena extracts," (1985) <i>Cell</i> , 43:405	
		Greider, "Telomerase is processive," (1991) <i>Mol. Cell. Biol.</i> , 11:4572	
		Greider, "Telomere Length Regulation," (1996) <i>Ann. Rev. Biochem.</i> , 65:337	

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Sheet	6	of	12

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
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		Hampton et al., <i>Serological Methods a Laboratory Manual</i> ; (1990); pp. 33-86, 179-286; APS Press, St Paul MN	
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		Huse et al., "Generation of a large combinatorial library of the immunoglobulin repertoire in phage lambda," (1989) <i>Science</i> , 246:1275	
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		Lamond and Sproat; (1994) "Isolation and Characterization of Ribonucleoprotein Complexes;" In <i>RNA Processing: A Practical Approach</i> ; (Higgins, S.J. and Hawes, B.D. Eds.), Volume 1; pp103-140	
		Lamond <i>et al.</i> , "Probing the structure and function of U2 snRNP with antisense oligonucleotides made of 2'-OMe RNA," (1989) <i>Cell</i> , 58:383	
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		Lingler <i>et al.</i> , "Purification of telomerase from <i>Euplotes adeliculatus</i> : requirement of a primer 3' overhang," (1996) <i>Proc. Natl. Acad. Sci.</i> , 93:10712	
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		Lingner <i>et al.</i> , "Telomerase RNAs of different ciliates have a common secondary structure and a permuted template," (1994) <i>Genes Develop.</i> , 8:1984	
		Lingner <i>et al.</i> , "Telomerase and DNA End Replication: No Longer a Lagging Strand Problem?," (1995) <i>Science</i> 269:1533	
		Lowy <i>et al.</i> , "Isolation of transforming DNA: Cloning the hamster apt gene," (1980) <i>Cell</i> , 22:817	
		Lustig and Petes, "Identification of yeast mutants with altered telomere structure," (1986) <i>Proc. Natl. Acad. Sci.</i> , 83:1398	
		Maddox <i>et al.</i> , "Elevated serum levels in human pregnancy of a molecule immunochemically similar to eosinophil granule major basic protein," (1983) <i>J. Exp. Med.</i> , 158:1211	
		Makarov <i>et al.</i> , "Nucleosomal Organization of Telomere-Specific Chromatin in Rat," (1993) <i>Cell</i> , 73:776	
		McEachern and Blackburn, "runaway telomere elongation caused by telomerase RNA gene mutation," (1995) <i>Nature</i> , 376:403	
		Melby <i>et al.</i> , "Quantitative measurement of human cytokine gene expression by polymerase chain reaction," (1993) <i>J. Immunol. Meth.</i> , 159:235	
		Merrifield, "Solid phase peptide synthesis. I. The synthesis of a tetrapeptide," (1963) <i>J. Am. Chem. Soc.</i> , 85:2149	

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Sheet **8** of **12****Complete If Known**

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

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Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Meyerson <i>et al.</i> , "hEST2, the Putative Human Telomerase Catalytic Subunit Gene, Is Up-Regulated in Tumor Cells and during Immortalization," (1997) <i>Cell</i> , 90:785	
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		Nakamura <i>et al.</i> , "Telomerase Catalytic Subunit Homologs from Fission Yeast and Human," (1997) <i>Science</i> , 277:955	
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		Romero and Blackburn, "A conserved secondary structure for telomerase RNA," (1991) <i>Cell</i> , 67:343	
		Sambrook <i>et al.</i> , <i>Molecular Cloning, A Laboratory Manual</i> ; (1989); pp. 8.1-8.86 and 16.1-17.44; Cold Spring Harbor Press, Plainview NY	

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Sheet 9 of 12

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Sheet	10	of	12

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		Wellinger <i>et al.</i> , "Saccharomyces Telomeres Acquire Single-Strand TG ₁₋₃ Tails Late in S Phase," (1993) <i>Cell</i> 72:51	
		Whitehead Institute/MIT Center for Genome Research, Genetic Map of the Mouse, Database Release 10, April 28, 1995	
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		Zaug <i>et al.</i> , "Catalysis of RNA Cleavage by a Ribozyme Derived from the Group I Intron of Anabaena Pre-rRNA ^{Leu} ," (1996), <i>Nucleic Acids Research</i> , 24:532-533	

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